

**Minutes**  
**Environmental Quality Commission**  
Room 129 Capitol Annex, Frankfort, Ky.  
November 28, 2000  
1:00 to 4:30

**EQC Commissioners and Staff**

Aloma Dew, Chair  
Betsy Bennett, Vice-Chair  
C.V. Bennett, III  
Gary Revlett  
Bob Riddle  
Serena Williams  
Patty Wallace  
Leslie Cole, Director  
Erik Siegel, Asst. Director  
Frances Kirchhoff, Adm. Asst.

**Speakers/Representatives Present**

Allen Luttrell, Dept. of Surface Mining  
Bob Logan, Dept. of Environmental Protection  
Bob Ware, Div. of Water  
Gene Blair, Emergency Response Team  
Thomas Meikle, A.T. Massey  
Danny Cox, A.T. Massey  
Joseph Zaluski, A.T. Massey  
Art Smith, U.S. Environmental Protection Agency  
Carl Boone, Mine Safety and Health Adm.  
Mark Skiles, Mine Safety and Health Adm.  
Frank Strunk, Mine Safety and Health Adm.  
Richard Reynolds, Mine Safety and Health Adm.  
Robert Billamy, Mine Safety and Health Adm.

**Opening Remarks**

Environmental Quality Commission (EQC) Chair Aloma Dew opened the meeting at 1 pm. Approximately 120 people were in attendance. Ms. Dew explained the purpose of the meeting was to focus on the October 11 coal slurry spill in Martin County. The Environmental Quality Commission (EQC) invited representatives from the state and federal government and Martin County Coal Corporation to discuss the cause of the spill, response, cleanup, and efforts underway to assess the safety of other coal waste impoundment in Kentucky. Questions were posed to the various agencies and Martin County Coal in the form of a resolution passed by the commission on Oct. 20. The Chair explained that the presenters would have 20 to 30 minutes to answer the questions posed by EQC and answer any additional questions from the commission members. After all speakers have finished, if time permits, questions from the audience would be entertained. Cards were distributed so audience members could submit written questions.

**State Presenters**

- Allen Luttrell, Deputy Commissioner, Dept. for Surface Mining, Reclamation and Enforcement (DSMRE)
  - Bob Logan, Commissioner, Dept. for Environmental Protection (DEP)
  - Bob Ware, Assistant Director, Division of Water
  - Gene Blair, Coordinator, State Emergency Response Team
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- **Explain how the Martin County Coal impoundment failed.**  
Luttrell--A rip or tear caused the slurry to travel approximately 100 feet into old underground mine works. The exact cause of the rip or tear is under investigation by the federal Office of Surface Mining (OSM), the Mine Safety and Health Administration (MSHA) and the Kentucky Department of Surface Mining, Reclamation, and Enforcement (DSMRE).
  - **Discuss the state's response to the spill and its short and long term impacts to potable water supplies, water quality, and natural resources.**  
Luttrell--DSMRE's primary responsibility is overseeing the Martin County Coal slurry spill cleanup and to evaluate the other 120 coal impoundments located in Kentucky.  
Logan, Ware, Blair--DEP, in coordination with other federal and state agencies and Martin County Coal, made an evaluation of the impact including (1) loss of human life; (2) potential

impact to water/drinking water supply; (3) flooding potential; and (4) the environmental impact associated with a release of this nature. There was no loss of life, but drinking water supplies were impacted. Drinking water supplies in the areas of Wolf Creek; the Martin County Water District; Fort Gay, West Virginia; Levisa Fork, Tug Fork, and Louisa were affected. All public water supplies are fully operational now and providing potable water to their customers. DEP is still in the process of evaluating the impacts to the streams. No sampling has indicated any residual contamination of the groundwater resource as a result of the slurry spill. DEP is working with the Cabinet for Health Services, Department of Public Health, to evaluate impacts to onsite septic systems damaged by the site cleanup. DEP is working with Fish and Wildlife from Kentucky and West Virginia to determine resource loss, recovery possibilities, and a long-term restoration plan. The Environmental Response Team has been on-site around the clock acting as the on-scene coordinator for Kentucky.

- **Discuss the status of the cleanup and the efforts of the various state and federal agencies and the Martin County Coal Corporation to contain the spill and remediate the spill area.**

Luttrel-- The cleanup is ongoing and progress is being made.

- **Review the extent of the problems that may exist with other coal waste impoundments or embankment structures.**

Luttrel--High priority has been placed on impoundment sites that have had problems in the past. File searches and site inspections have been done. OSM is doing a file review of all impoundments to see if any have underground works in close proximity to underground works and add them to the high priority list. After all high priority sites have been reviewed then all remaining impoundments will be reviewed.

- **Propose what regulatory, programmatic, technical or other measures will be taken to prevent recurrence of such catastrophic failures.**

Luttrel -- We have not completed a programmatic evaluation at this time. The evaluation will continue and be completed in the near future. As far as a moratorium on the permitting of new impoundments, that would take a legislative change. However pending impoundment applications will be looked at very closely and significant areas of concern will be underground works in close proximity to impoundments.

- **Discuss options and alternatives to coal slurry impoundments and how these should be pursued.**

Luttrel--Understand that DSMRE is a regulatory agency and doesn't conduct research. New technologies aren't going to come from this agency. There are other alternatives that can be utilized for consideration in a permit that is submitted. Ponds, belt presses, and underground slurry injections are all options.

#### **Questions from the Commission**

##### **What about a moratorium on impoundments?**

Luttrel--Coal mining refuse impoundments are specifically regulated with a set of criteria as prescribed by statute and regulation. If an applicant proposes to use a particular type of disposal for coal refuse, we are mandated to look at it under those guidelines and decide whether or not to issue the permit.

##### **Do you know how many impoundment permits are pending?**

Luttrel--There are six pending and two modifications.

##### **What eventually happens to an impoundment?**

Luttrel--Regulations don't allow them to stay open. They are capped then a minimum of four feet of nontoxic material is added and the surface vegetated.

##### **Who is liable for the maintenance and are these bonded?**

Luttrell--The permittee is responsible for closing the impoundment. They are required to have a reclamation bond and liability insurance.

**Does your agency have monitoring obligations to impoundments during that 20-year period that this impoundment has been in use? In what way? Do you send someone out there?**

Luttrell--It is inspected at least once a month. After it becomes inactive, it may be inspected once a quarter. Generally, regulations require a minimum of five years liability after it is no longer active. DSMRE will look at a project for the life of a permit plus a minimum of five years after it has been closed.

**Given the water quality concerns, would you identify any toxic elements found in the discharge that would adversely impact human life that would be different from a water quality treatment plant as far as the chemicals found in coal slurry? And when the intakes were taken off line, what was the risk to life and health?**

Ware--The materials in the slurry were there in different concentrations. One element that was used by the company in its treatment process was a polymer called acrylamide --a substance that is used to coagulate and flocculate particulate materials so they will settle. Samples from the streams and rivers were analyzed and tests came back as non-detect. This substance rapidly biodegrades. When combined with dilution, significant dissipation would be expected.

**What water quality standards are currently being violated in the Big Sandy based on your last round of sampling?**

Logan--At this stage, we can't say there are water standards being violated as a result of this activity. The big violation and major environmental insult has been the smothering effect of the material released and the impact to the ecosystem.

**Exactly what are the components of coal slurry?**

Luttrell--It is a combination of chemicals used at the processing plant and the impurities of coal. It is a combination of clays and shells, the chemicals used in the processing of the coal, and water. Different companies use different chemicals. The chemicals used would be listed in the water permit.

**Is it typical to put impoundments over an old underground mine?**

Luttrell--Impoundments are located close to preparation plants and mine sites because by nature of what they are. There have been problems historically, but never of this catastrophic nature.

**When was the last time the Martin County Coal Impoundment was inspected?**

Luttrell--Today. Impoundments are required to be inspected by the company on a weekly basis. DSMRE inspects impoundments on a regular basis while they are active.

**What factors are used to issue a permit for impoundments? Is human health included? Is the risk of a spill included?**

Luttrell--Yes, factors such as the locations of residents downstream; locations of intakes for public and municipal water supplies; structural stability; what the material is made of; how it will be keyed into the natural realm; safety of the dams; if there is underground works close are all factors. Typically to review an application takes about two years.

**Do you have any idea how much sludge is backed up against the Needle Dam? Will that eventually be removed?**

Ware--Yes, a survey was conducted but I can't give you how that translated into tonnage. That is something that our agency along with Fish and Wildlife is interested in exploring.

#### **Speakers representing the Martin County Coal Corporation and A.T. Massey**

- Thomas Meikle, Director, Surface Mining, A.T. Massey
- Danny Cox, Director, Environmental Engineering and Compliance, Massey Coal Services
- Joseph Zaluski, Attorney, Wyatt, Tarrant and Combs

- **Review how the surface coal impoundment failed**
- **Discuss the Company's response to the spill**
- **Review the cleanup and its status**

Meikle – Mr. Meikle briefed the commission with a power point presentation. He provided background information on the coal preparation plant, its purpose, what chemicals are used, and where the refuse is stored. An impoundment is literally a lake of black water. The first three weeks after the spill involved pumping. The slurry was pumped into water trucks and hauled to settling ponds. A flocculent was added to help settle the solids. Water trucks were later replaced with permanent pumping systems. Vacuum trucks were used to clean from behind rock check dams and haybail filter structures. After removing the water, lime was blended with the slurry to make it more solid. This solid mixture could be loaded with a backhoe and hauled away. Hydroseeding pumps were then used to wash the banks. Wire structures were put up to hold back the slurry and allow the water to run through. To keep the public informed on the activities and progress, community meetings were scheduled.

#### **Questions from the Commission**

**What is the process for individual property owners to be compensated for the spill and the cleanup?**

Meikle--I work in operations and I am not able to address that question.

**Do you know if there is going to be any long-term monitoring for health concerns and long-term damage to the environment?**

Cox--I am sure there will be and that will be developed with agencies involved and the unified command. There is a plan going on right now and I am sure that will be continued.

**What was the construction material in the bottom of the impoundment? What was the size of the hole/opening?**

Cox--Not sure what construction materials were used. A pad was built to do test drilling to determine the size of the hole in the impoundment. This kind of information is going to help to avoid these events in the future.

**What happens to the slurry after it dries out in the slurry pond?**

Meikle--It will be reclaimed, covered and vegetated as any other impoundment.

**Is there anything that can be reclaimed or reused in this material? Is there any way the coal can be removed from the slurry?**

Meikle--No.

**What long-term effects will this material have on the reclamation of the land, trees growing, etc.?**

Meikle--The material itself, after it is covered with dirt, will grow grass and trees just fine.

#### **Speakers representing U. S. Environmental Protection Agency (EPA)**

- Art Smith, On-scene Coordinator, U.S. Environmental Protection Agency, Region IV, Atlanta
- **Provide an overview of the spill and U.S. EPA's response**  
The primary role EPA performs is to coordinate with other regions and other agencies to provide federal resources and oversight of cleanup. EPA enlisted the support of the Environmental Response Team and the services of the U. S. Coast Guard Strike Team. Another area of service is the formation of the assessment team. The goal of the team is to try and restore the streams and rivers to habitat conditions that existed before the spill.
- **Review efforts underway to clean up the spill**  
EPA's emphasis at this point is effective containment and removal of the slurry and continued emphasis on the conditions of the drinking water plants along the banks.
- **Discuss short and long term restoration needs**  
The immediate emergency was to provide drinking water to the citizens. Although arrangements were made to construct pipelines, these are temporary and stopgap in nature.

Using machines to clean up the area does damage too. It is still unknown what the long-term effects will be of allowing some slurry to remain in or near the creeks and rivers.

- **Discuss the challenges and issues that lie ahead**

The spill released in two directions and that made the cleanup difficult. In order to fully arrive at the decision and goals for completing cleanup, studies need to be aimed at the long-term effects to the environment of allowing some level of slurry to remain in or near the creeks and rivers. After weighing all the evidence, EPA has determined that it would be more detrimental to remove all the slurry because to go after a very thin layer of sediment probably would raise the potential of putting more black water in the stream and effecting the down stream water intake. This is a balancing act.

### **Questions from the Commission**

#### **Has EPA taken any enforcement action?**

Smith--No. To date we are aware of at least two actions taken--one in Kentucky and one in West Virginia. EPA is in the process of discussing with the company an Agreed Order that will outline an umbrella under which others can fold into and serve as a vehicle for the long-term monitoring and cleanup--laying out the goals and satisfy as many parties as possible in the final cleanup of this incident.

#### **So EPA is the supervising agency for the enforcement?**

Smith--Right, but we won't replace anything various state agencies have put in place. It is essentially a coordinating mechanism to bring everyone together.

#### **Is there a possibility that this will be declared a superfund--that this is hazardous material that will qualify for superfund status? Is this site considered hazardous enough by EPA to declare it a super cleanup site?**

Smith--I wouldn't be able to speculate whether it would qualify as a superfund site for long-term restoration. The goal is to work through the long-term solutions without having to make it a national priorities list site.

### **Speakers and Representatives of the U.S. Mine Safety and Health Administration**

- Carl Boone, District 6 Manager, Pikeville
  - Frank Strunk, District Manager of District 7, Barboursville
  - Richard Reynolds, Assistant District Manager of District 10, Madisonville
  - Robert Billamy, U.S. Mine Safety and Health Administration (MSHA), Impoundment Division, Pikeville
  - Mark Skiles, Director of Technical Services Support, MSHA, Arlington, VA
- **The role of MSHA in permitting coal waste impoundments**

Carl Boone provided comments. MSHA is a part of the unified command working with all agencies involved. MSHA appointed an investigation team consisting of representatives from MSHA headquarters, the National Mine Safety and Health Academy, Pittsburgh Health and Safety Technology Center, and MSHA's Special Investigations Division along with impoundment specialists and supervisors from other MSHA districts from West Virginia and Kentucky.
  - **What is being done to prevent future impoundment failures**

MSHA is in the process of conducting on-site technical inspections and evaluations of all impoundments across the nation. In addition to standard evaluating techniques, these evaluations reflect some of the knowledge of what MSHA believes might have caused the Martin County failure. This evaluation included locating all underground works currently effected by impoundments and all underground works that may be effected during the life of the impoundment. When these evaluations are done and it is determined that one is near abandoned mine works, the company will be required to submit a revision to their plan for any sites that are determined to have a high potential for a breakthrough. Currently there are 122 impoundments in the state of Kentucky. Of these, 13 are considered to be high priority

impoundments. Note that the high priority rating does not mean that the impoundments are going to fail. The impoundments are high priority based on the fact they are located over or near abandoned mine works. On November 9, 2000, various agencies were invited to a meeting and agreed to formulate a task group to study all the impoundment issues. (The EQC Commissioners were given a copy of MSHA's regulations and policy on impoundments and guidelines for evaluating a breakthrough potential and procedure instructions letter that was published in 1997 on impoundments breakthrough potential. A copy of Bureau of Mines Information Circular IC 8731, "Mining Near Surface and Underground Bodies of Water" was also given out.)

#### **Questions from the Commission**

**Is MSHA the responsible Agency that accesses the impoundment when a permit is being considered for approval?**

Boone--The company is required to submit a plan to MSHA. It goes through the program process where by MSHA sends it to the Pittsburgh Technology Center. The Center provides their comments to the Districts on the impoundment. The District Manager signs off as the approval level for MSHA.

**The State Division of Surface Mining wouldn't approve a permit without the MSHA district having signed off on it?**

Boone--I'm not sure about that. I send them to Pittsburgh Technical Center and my engineers look at them and they consult back and forth. We have an approval process we go through.

**MSHA is looking at locations of underground working and accessing break through potential for all impoundments in the country? In theory, isn't that already being done as a part of your approval process?**

Boone--We are taking another look at the impoundments and classifying them based on what we think could have possibly occurred at the Martin County site. Some classifications are being raised and some are being lowered on the priority list based on their proximity to an underground mine.

**Can you explain what an impoundment is and why coal companies have to have them?**

Boone--Coal waste generated from the cleaning process at the preparation plant has to be put somewhere. Some plants pile the waste; some put it in impoundments, which can be either wet or dry. All have to be approved by MSHA. The district managers take a look at them engineering wise to determine if the dam will do the job of holding back what ever is behind it.

**Based on given technologies, has there been any research on alternative solutions to eliminate refuse areas or in some way convert to some beneficial reuse of the mine refuse?**

Boone--I'm not sure of what kind of research is going on about that. So right now, the only alternative a coal company has is to pile it or store it for some future date? But there are alternatives. Some companies get an approval to put it into abandoned area of a mine, and another alternative is a belt press method that squeezes out the water and the solid waste is stored.

Unidentified speaker--There is a company we are working with right now that claims they can reclaim part of the slurry. We are working with them to see if we can get the coal company to try it.

**As far as the mine refuse, no one has come up with a solution to create a beneficial reuse for the slate particulate except to pile and store it for the future?**

Boone--That's correct. That's all we can do for now.

**Did I read in the newspaper that a company wanted to build an incinerator in Perry County to burn it?**

Boone--I'm not sure.

**Do you have monitoring and inspecting duties in addition to the state and do you monitor what the state is doing?**

We do not monitor the state. We perform inspections every six months of the impoundment alone and all the other surface facilities around a coal. Underground coal mines are inspected once a quarter. Surface mines, their facilities, and preparation plants are inspected every quarter. During heavy rainfall, we do go out and look at impoundments to see if there are any effects. The state agency does not answer to MSHA?

**Given MSHA's responsibility, can you explain the high degree of modeling it undergoes before an impoundment is issued for construction?**

Boone--Generally it takes about two years for the plan to go through our approval process. Our engineers get the plan at the district level. They study it and make sure that it is complete before it is sent to the Technical Support Center. The Technical Support Center then takes a look at it to determine that things have been done and based on the information that the company submits, the approval is made.

**For what level of rainfall are they typically designed, 100-year rain, 500-year rain?**

Boone--I am not sure.

**Was this failed impoundment reviewed under the MSHA 1997 procedures?**

Boone--Yes. It had a moderate "C" ranking because of what we would determine would be its impact. It had a failure in 1994 when slurry came out of one of the same areas, the Wolf Creek side.

**Since it had already had a failure, how come it was ranked only a moderate risk?**

Boone--The Company had installed seepage barriers around the impoundment thereby lowering its rating.

### Questions from the Audience

EQC next entertained written questions from the audience.

- **What studies are being done to determine why and how the hole developed between the pond floor and the underground mine?**

Luttrell --The Department for Surface Mining, the Department for Mine Safety and Health Administration, and the Office of Surface Mining is currently evaluating what caused the actual failure. We are reviewing maps and doing a series of 30 or 40 core drillings. After the core drill is completed, we are going to take a down-hole camera and video to the physical structure of the rock strata to see what happened. We are going to determine the coal seam elevations, log everything, and try to draw some kind of analysis. We are also going to look at maps. We are in the process of interviewing previous workers there.

- **To what extent is seismic profiling used in siting ponds or in finding the hole after a collapse?**

Luttrell--Seismic profiling is a technology that can be used. It was considered to be used in this investigation and the decision was made to go with the drilling instead of seismic profiling.

- **What are the health effects from exposure to the coal sludge, particularly the inhalation of dried sludge and lime, and contact with the skin?**

Art Smith--Based on the analysis that was provided to us by the coal company and data that EPA generated from our own independent sampling, we have concluded that there are no health risk associated to exposure to the slurry material. Slurry contains higher elevations of naturally occurring materials than exist in the geology there. There are no toxic chemicals and no metals at concentrations that would warrant any consideration for concern with respect to exposure. Inhalation exposures with respect to the dust is caused by the lime used to treat the slurry. In our estimation there would be a greater health risk of exposure to the lime so to that extent we would put particulate air monitors out in the areas where the liming is taking place to make sure there is no concern of exposure. Our efforts are designed to be sure that the activities being conducted in the cleanup do not cause that kind of airborne risk that would be of concern to the workers of the residents.

We have hired outside experts to analyze the materials in every way and found nothing that should be cause for concern.

- **We saw a settlement pond on Coldwater Creek built directly adjacent to a new housing subdivision. Are representatives from Martin County Coal going to leave the dried sludge at that point permanently?**

Meikle--The material will be removed and that area will be reclaimed.

- **Will the affected area be restored to pre-disaster conditions?**

Meikle--There is no way we can actually restore it to preconditions. We are going to do everything we can to make it the best we can. We're going to do everything we can to put it back the best we can.

- **How much of the sludge will be removed from the affected area?**

Meikle--Most of it will be removed. There is going to be a trade-off when it comes to removing some of the smaller amounts. We are going through our assessment about whether we should try to remove every little bit. We have done a lot of analysis on this material to see what it contains. We are going to look at how much we should remove. We cannot remove every little piece but we are going to remove as much as we can considering everything else.

- **How are arsenic and mercury hazards assessed or mitigated?**

Smith--In our analysis of the data that was generated from collecting samples of the slurry, there are no levels of arsenic or mercury that represent hazards at the concentrations that were measured. So we don't think there is a risk. Hazards are assessed by looking at the concentrations that are present and comparing that to concentrations established that present undue risk. The concentrations in this material do not warrant concern from exposure.

- **Are all residents being treated equally in terms of alternative living arrangements?**

Meikle--We have done everything we know how to take care of those issues. I'm not familiar with the details, but we have done everything we know.

- **How would this situation have been handled differently had the federal government been in charge instead of a private company?**

Smith--It's not fair to say that the company is in charge of the cleanup. The way the situation is being managed, EPA represents the federal government not only in providing resources to address the incident but in providing direction to the company on whether their level of commitment and strategies and the approaches they are taking are consistent with the goals that the federal and state government are establishing for this cleanup. If the question was "if the federal government had been supplying all the resources necessary to clean up the spill" there would be very little difference in the kind of strategies that have been used in the approaches and the type of cleanup that has been done. I don't think there would have been much difference at all.

- **How many gallons of black water along with the 270 millions gallons of sludge do you estimate flooded the area?**

Meikle-- The initial assessment based on a survey of the impoundment was 250 millions gallons of water and slurry discharge from the impoundment. Obviously, as part of the cleanup, we are not only dealing with the material that originated from the impoundment but dilution of groundwater runoff in the same watersheds. So ultimately the total amount of material that we will be handled by the time everything is done probably will be higher. We don't have a quantity.

Logan - I think it is very difficult to quantify the amount of material that came off the site. We made that request and the company has attempted to try giving a calculation of what was released. The amount of material out there depends on how much flow was in the stream, how much was displaced when this came down. It's very difficult to put a handle on actually what was out there. What we got was an estimate. We have been using that estimate as kind of a baseline for cleanup based on what the company's calculations of what was released from the impoundment. Beyond that, it is basically



gone now and it is difficult to recreate that. We can make some estimates but to factually say how much was released would be very difficult.

- **What is the exact language of the cleanup requirements imposed on Martin County Coal Company? What violations and fines have been imposed, and are others forthcoming?**

Logan--The state has taken enforcement action. They have issued notices of violation to the company. The company is certainly within its rights to challenge the notices of violation, which I believe, has occurred and therefore we are involved in litigation at this point and I would prefer not to discuss it beyond that. As for the first question, "what is the exact standard of cleanup," federal and state agencies have been involved in looking at what constitutes the cleanup and restoration of the sites that have been impacted. We have attempted to draft, what we think, is some guidance for our folks and certainly been in discussion with EPA, state Fish & Wildlife Service, and DSMRE as to what we think was an acceptable restoration to the site. It is difficult (I assume nothing is impossible if you throw enough money at it) to restore a site. The question is at what point is this restoration become a negative effect over the impact. If I can clarify that. You have an impact. How much contaminate can you remove so that you can maintain a viable aquatic system or protect human health. That has been the debate on any cleanup site. Whether oil and gas spill, alcohol spill, or a chemical spill. How do you get to that point. In this case, there are not firm numerical standards for a lot of materials. Typically numerical standards address chemicals, metals, and those types of constituents. We do have some suspended solids, some turbidity limits that address this type of material but really this is a physical effect on the streams. And how to determine how to restore the stream will be based in part on is the historical condition of the stream. What we think the condition of the stream would be in that region and making a best professional judgement on what the restoration standard will be. Realistically you can't say you will remove every particle of this material that is out there. You have got to look at what the consequence of that removal would be versus the restoration potential for that. So really what is going to happen more realistically, is that there is going to be an evaluation of segments of each one of those impaired waterways, evaluating it onsite with the state and federal representatives and the company representatives and saying this appears to be good enough. This is stabilized enough to where we have created no longer an erosion potential and have recreated a stream to the best capability that we have letting nature take its course at that point. We have data for the stream systems, not all of the stream systems, but there is information for the Tug Fork, Coldwater and some of the other systems. Wolf Creek, we don't have that kind of information. What we have done is to go in and evaluate upstream locations or similar stream locations to use as a comparison indicator of what that stream should be restored as. I'd like to make one other statement to clarify the state's position on the metals and their impact. As Art Smith has pointed out, there have been no indications that there is any health risk associated from the spill. There are two types of risk that we deal with (1) human health either to inhalation, skin contact, ingestion such as drinking water for humans, and (2) there is a different type for ecological components that we are concerned about. Because a set of constituents or concentrations of particular materials may not be hazardous or may be considered non-hazardous for humans does not necessarily mean that it will be the same for the ecological conditions; the fauna, the algae, the fish, or any other aquatic life that may be in the stream. So the state has the responsibility to look at both the human health and the ecological side of it. What we have determined today is that in the short duration the acute effects does not appear to be hazardous. We have ongoing studies with the state, the company, and other federal agencies to determine if there is going to be a long-term impact resulting from this. I am certain that once the studies are conducted that those findings will be published in a draft and that will give the public an opportunity to comment on those findings and make their recommendations. But certainly this has

nothing to do with the use of what private citizens may have. We would encourage them to give their comments on what the impact to them may be. Certainly the company has had communications with the public; set up scheduled weekly meetings. They do have open dialogue with the community and the citizens to get their input on it.

- **How is the 500-foot setback from underground works or ponds implemented and how do we know where these mine works are? Are there underground mine works maps available?**

Luttell--The mining in Kentucky has occurred since the late 1800s--for about 100 years. Information on some of the old underground works we're not going to have. We may have an idea of a portal somewhere but we won't have an idea of the extent of the works. The depository for mine maps in the state of Kentucky is the Dept. for Mines and Minerals. There was a fire in their map room in the 1940s that destroyed most of the maps. Many of those businesses are gone and the landowners have sold their land and have moved on. So it is difficult to find exactly where all the underground mine works are. We don't have a way to fully determine if works are in an area. There is a general rule that requires a 100-foot buffer when you are dealing with underground mining and bodies of water. There is notification if active mines are within 500 feet somewhere in the regulations, but I don't know if that applies to impoundments or something else.

- **When will rapid drying ponds be substituted for holding ponds? Is there a plan or a timetable for this?**

Meikle--The holding pond used to clean the stream will be removed and the slurry mixture will be taken to the top of the mountain to be dried. At that point, those areas will be graded and seeded.

- **If we have the technology that allows you to dewater the slurry rather quickly and dry it by taking it to the mountaintop when are we going to eliminate the holding ponds and just truck it to the mountaintop and let it dry quickly and eliminate impoundments?**

Meikle--I think you are taking 'drying quickly' out of context. There is a period of time it is going to have to sit on the top of the mountain in order for it to dry. Would it be 20 years? No, it wouldn't be 20 years. I don't have an exact number but once the material has dried we will encapsulate it and vegetate the top.

- **How will you plan prevent future coal sludge spills in your future operations at any of your ponds? Have you considered any other technologies to process sludge on a regular basis?**

Meikle--Anything we do will be properly engineered and permitted in accordance with the standards. Unfortunately, in drying ponds like this, we are trucking treated material up there that's much different than the materials pumped from the prep plant to an impoundment. It is a lot wetter slurry.

A.T. Massey Rep. (speaker unidentified)--The material that we are taking back to the mountain from the settling ponds in the trucks is a much higher percentage of solids that materials you pump out of a prep plant. When we place the spill material in settlement ponds on the mountain it does dry where it can be buried and reclaimed faster than what coal slurry could. Coal slurry is produced through a continuous process of adding a material of water and coal refuse on a daily basis for 20 years.

- **Doesn't the high-speed stream used to clean the bank also destroy the rock's strata and the stability?**

Smith--I believe that is referring to the use of the hydroseeder used to clean the banks. Yes, there is some amount of removal of mud. If it is taking out large amounts of other material besides other than it was intended to recover, and then you may have to look at other means of removal.

- **Is the restoration of the bank going to use soil, bioengineering and native materials?**

Cox--Yes.

- **In the slurry pond permitting process if the coal company engineers give an inadequate answer to the MSHA engineer's questions how is that dealt with?**

Boone--We wouldn't approve the plant. We'll have questions and we will talk back and forth with the company to work their way through it using all the available prudent engineering data available. Most companies I am aware of in my area have a consultant who develops the plan for them using information supplied by the company. They submit an application and when we have questions on it we send it back to the Company. The approval is held up until those questions are answered.

- **The cleanup up has disrupted many residents' lives; loss of trees, gas lines, septic line damage. How is Martin County Coal company addressing these concerns?**

Meikle--It is our plan to restore all the land, all of the utilities, etc. as it was before the disaster. We are working on it as rapidly as possible. As we continue to reclaim, particularly in the Coldwater area, we try to get with the residents and communicate how we have handled the reclamation work within their property. Infrastructure, bridges, roads, gas lines, water lines, we understand there were damaged sewer lines during the restoration. We'll replace them.

With no further questions, Aloma made closing statements and thanked all the participants for attending. She noted that our purpose of being here today was to provide an open forum so that people can get some answers to their questions.

#### **Other Business.**

The commission formed a committee to develop recommendations or findings regarding the Martin County coal slurry spill. Members of the committee are Patty Wallace, Betsy Bennett and C.V. Bennett. The Commission suggested that we look for alternative solutions to slurry ponds and push for a moratorium on permitting impoundments. The Commissioners still had some questions such as: When was the last time it was inspected? Why isn't Dam Safety in the Division of Water involved? Is Corps of Engineers involved?

The next EQC meeting was set for December 13. The commissioners will also meet with Secretary Bickford on that day to advise him of the Commission's 2001 Goals.

With no further business, the meeting adjourned at 4:30.

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signed

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date